

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 1, 2, 15, 74, 78, 87, 90,)	
and 97 of the Commission's Rules Regarding)	
Implementation of the Final Acts of the World)	ET Docket No. 12-338
Radiocommunication Conference)	
(Geneva, 2007) (WRC-07), Other Allocation)	
Issues, and Related Rule Updates)	

To: The Commission

COMMENTS OF COMSEARCH

Comsearch hereby submits comments on the *Notice of Proposed Rulemaking* (“NPRM”) adopted by the Commission on November 15, 2012, in the above-captioned proceeding.¹ Our comments are limited to two issues affecting the point-to-point fixed microwave services licensed under Parts 74, 78, and 101.

A. Coordination Areas for Federal Earth Stations at 18 GHz

At the request of NTIA, the NPRM proposes coordination areas for 18 GHz at San Miguel, CA and Guam, similar to existing areas at Washington, DC and Denver, CO, to protect federal earth stations. To be licensed, a fixed terrestrial link in a coordination area must gain approval by the FCC through NTIA's IRAC FAS process. The need for federal coordination blocks operation under Conditional Authorization in these areas. As shown in Figure 1, the

¹ Amendment of Parts 1, 2, 15, 74, 78, 87, 90, and 97 of the Commission's Rules Regarding Implementation of the Final Acts of the World Radiocommunication Conference (Geneva, 2007) (WRC-07), Other Allocation Issues, and Related Rule Updates, *Notice of Proposed Rulemaking and Order*, FCC 12-140 (rel. Nov. 19, 2012) (“NPRM”).

proposed San Miguel coordination area covers central California from west of Los Angeles to San Jose.

In its request for the new coordination areas, NTIA suggests the impact of the existing Washington and Denver areas has been minimal: “NTIA has reviewed and approved without any further coordination over 99% of the license applicants within the coordination areas for these two earth stations. In virtually all of the limited number of cases where the FAS predicted interference, the U.S. Government worked directly with the applicant to develop a plan to mitigate the interference and satisfied the applicant's communications requirements.”² However, NTIA can only be aware of coordination proposals and applications that are put forward, and cannot see the larger effect of the existing areas to block or deter attempts to use 18 GHz for fixed services.

Our data show that the existing coordination areas and embedded exclusion zones are having a pronounced effect. Counting the proposed, applied, and licensed frequency assignments (channels) in the 11, 18, and 23 GHz bands, and summing the spectrum these channels occupy, reveals that 18 GHz usage in the Washington and Denver areas is distinctly suppressed versus comparable areas near Boston and Minneapolis and versus nationwide usage. Table 1 shows the channel counts, spectrum occupancy (GHz), and spectrum occupancy (%) for existing coordination areas Washington and Denver, proposed coordination areas San Miguel,

² Letter from Karl B. Nebbia, Associate Administrator, Office of Spectrum Management, NTIA, to Julius P. Knapp, Chief, OET, ET Docket No. 12-338, dated July 30, 2012 at ¶ 3.

CA and Guam, and comparable areas Boston and Minneapolis³, plus nationwide. Figure 2 plots for each area the spectrum occupancy by frequency band as a percentage of the total.

Unencumbered by a federal coordination requirement or exclusion zone, non-federal users employ 18 GHz in Minneapolis for 35% of the total and in Boston for 28%. Nationwide the fraction is 31%. On the other hand in the existing Washington and Denver areas, 18 GHz usage is only 17% and 11%, respectively. Washington and Denver have 20 km exclusion zones inside the coordination areas. (No such exclusion zone is proposed for San Miguel or Guam.)

Comsearch cannot easily separate the effect of the coordination areas from the effect of the exclusion zones in terms of the spectrum occupancy counts for Washington and Denver, but strongly believes that the presence of the coordination areas contributes significantly to the lower 18 GHz usage. Thus we are concerned that the proposed coordination areas – particularly San Miguel – are likely to have a greater impact than suggested by the language of NTIA’s request. We note also that the present usage of 18 GHz in the San Miguel area is at 32% and it appears some future desired use stands to be discouraged with implementation of the proposed rules.

There are two primary reasons that the federal coordination areas suppress FS usage under Parts 74, 78, and 101. First, in contrast to the two-way coordination process among non-federal users under §101.103(d), coordination with the federal earth stations is an opaque one-way process. Without access to the technical data of the receivers, neither independent analysis nor disagreement with the government’s results is possible. Significantly, users can do little as a matter of planning to minimize or avoid potential interference and have no way to estimate the chance of approval. Second, use of 18 GHz in a federal coordination area blocks operation under

³ Boston and Minneapolis were selected as comparable based on similar population profiles to Washington, DC and Denver, and the counts considered links within 200 km.

Conditional Authorization⁴ and therefore introduces an unknown delay in the schedule for building and operating a link. In light of these factors, users often choose to pack links in other bands instead of attempting to coordinate at 18 GHz.

Comsearch agrees that the coordination areas *should* have little impact on FS usage. That FS users are turned off by the coordination process is an inefficiency that the Commission should seek to remedy. Whether or not the first problem can be solved (for instance by sharing data on the government systems with trusted commercial coordinators holding the proper security clearances), the second (and more important) problem has a straightforward solution. To promote efficient use of the spectrum, the Commission should, through NTIA, seek a commitment from DOD to respond to coordination requests for facilities in the coordination areas within a reasonable time frame such as 30 days. The Commission should also pursue an agreement with NTIA that conditional authorization is to be permitted for applications that include evidence of successful pre-clearance from DOD. If assured that they will (1) receive a timely indication of compatibility of a proposal with government facilities, and (2) be permitted to operate under conditional authorization when clearance is received, FS users will be able to effectively schedule projects and make more efficient use of 18 GHz in the coordination areas. We recognize that the FCC must receive a positive response through the official IRAC/FAS process to grant the license. However, if a proposal receives pre-clearance from DOD, there should be no reason for it to be rejected in the formal process, and the link(s) should be permitted to commence operation under conditional authorization.

⁴ 47 C.F.R. §101.31(b).

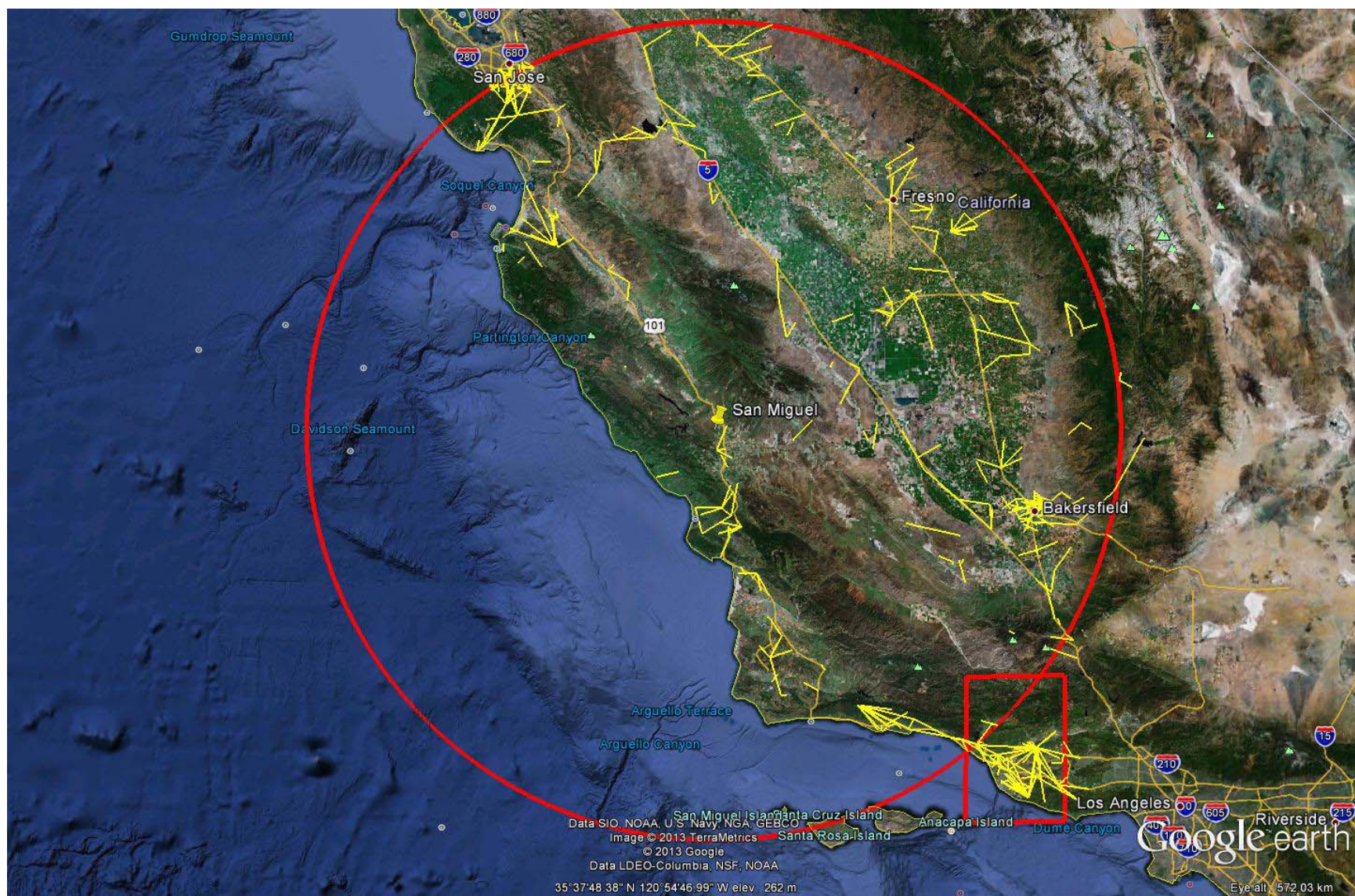


Figure 1: Proposed San Miguel Coordination Area and Present 18 GHz Links

	Channels			Spectrum Occupancy (GHz)			Spectrum Occupancy (%)			
	11 GHz	18 GHz	23 GHz	11 GHz	18 GHz	23 GHz	11 GHz	18 GHz	23 GHz	Total
Denver	1704	339	1343	56.54	14.36	57.48	44.0%	11.2%	44.8%	100.0%
Washington DC	5044	1686	3842	167.92	70.50	167.96	41.3%	17.3%	41.3%	100.0%
San Miguel	1832	1200	752	53.65	40.29	30.23	43.2%	32.4%	24.3%	100.0%
Guam	194	98	16	5.28	3.72	0.64	54.8%	38.6%	6.6%	100.0%
Minneapolis	1248	1039	1193	39.25	45.87	44.88	30.2%	35.3%	34.5%	100.0%
Boston	2396	1321	1457	76.50	53.65	64.24	39.4%	27.6%	33.0%	100.0%
Nationwide	79802	50669	40765	2547.11	1940.20	1759.20	40.8%	31.1%	28.2%	100.0%

Table 1: Channel Counts and Spectrum Occupancy – Licensed, Applied, and Proposed Channels for Fixed Point-to-point Links (Comsearch Data February 2013).

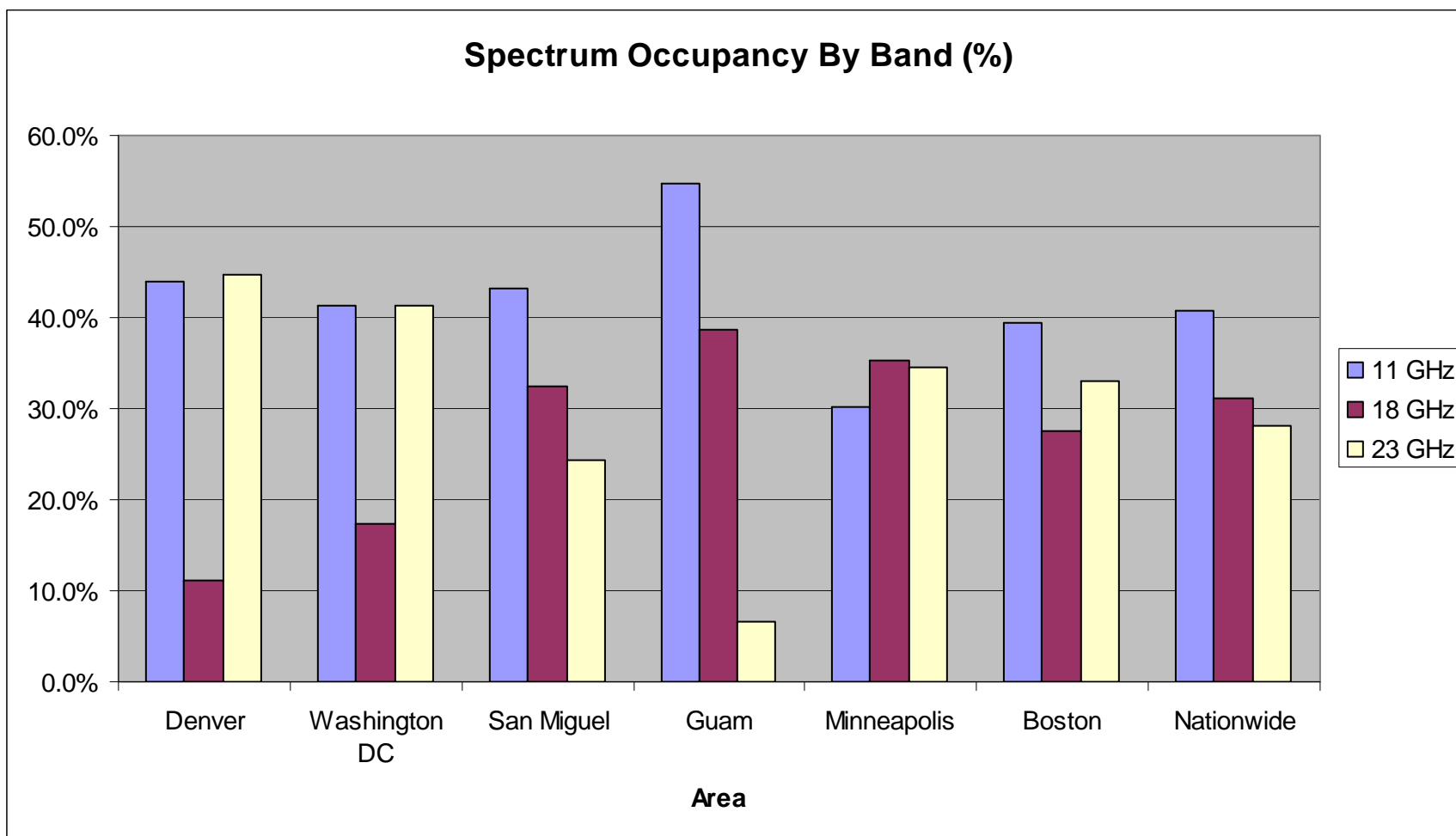


Figure 2: Spectrum Occupancy by Band – Licensed, Applied, and Proposed Channels for Fixed Point-to-point Links (Comsearch Data February 2013)

B. Protection of Passive Sensors Receiving in the 10.6-10.68 GHz Band

The Commission asks in the NPRM if it should “require FS stations (using paired frequencies) to transmit on frequencies in the 10.6-10.68 GHz band using the lower elevation angle”.⁵ Comsearch opposes such a requirement. In frequency planning for point-to-point networks it is desirable to follow a matched high/low frequency plan at each site. A matched high/low plan at a site means that all the transmitters operate in one half of the band (e.g. 10,550-10,615 MHz) and all the receivers operate in the other half of the band (e.g. 10,615-10,680 MHz), or vice versa. While a receiver could be exposed to a high interference level from a co-located transmitter, the matched high/low plan provides frequency separation so the transmitter and receiver filtering can mitigate the exposure and minimize the potential for interference. Following a matched high/low plan also maximizes the number of links and channels that can be used at each site thus allowing for increased capacity and growth. However requiring the antenna with the lower elevation angle on a link to transmit in 10.6-10.68 GHz could force use of a mismatched high/low plan. For example, consider a site that is an endpoint for several 10 GHz links. Based on the link geometry, the site might need the lower elevation angle for some links and the higher elevation angle for other links. In this common situation the rule would compel improper mixing of high and low frequencies even when a channel in 10.55-10.6 GHz could be used for the higher elevation angle cases. Furthermore in the frequency plans of §101.141(m), many channel pairs have both frequencies in the 10.6-10.68 GHz segment, so it appears those pairs would no longer be licensable. Finally, while proscribing proper frequency planning, such a requirement would do almost nothing to protect EESS. Only blocking use of elevation angles

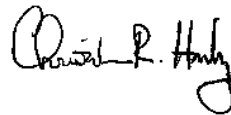
⁵ NPRM at ¶ 148.

above 20 degrees provides significant benefit to EESS.⁶ But on the other hand 10 GHz point-to-point antennas (including those that use the higher elevation angle on the link) rarely use elevation angles above 5 degrees.⁷

C. Conclusion

For the foregoing reasons, Comsearch encourages the Commission to take action in this proceeding consistent with the recommendations set out above.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Chris R. Hardy".

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⁶ Report ITU-R RS.2096, figure 23 and text, p. 38.

⁷ Report ITU-R RS.2096, first Note, p. 39. Also NPRM at ¶ 148 and footnote 259.